



**OFFICE OF THE DIRECTOR OF  
DEFENSE RESEARCH AND ENGINEERING**

July 28, 1999

MEMORANDUM FOR DIRECTOR, OPERATIONAL TEST AND EVALUATION  
DEPUTY ASSISTANT SECRETARY OF THE ARMY  
(RESEARCH AND TECHNOLOGY)  
CHIEF OF NAVAL RESEARCH  
DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE  
(SCIENCE, TECHNOLOGY AND ENGINEERING)  
DIRECTOR, BALLISTIC MISSILE DEFENSE ORGANIZATION  
DIRECTOR, DEFENSE ADVANCED RESEARCH PROJECTS AGENCY  
DIRECTOR, DEFENSE THREAT REDUCTION AGENCY  
DIRECTOR, TEST AND EVALUATION MANAGEMENT AGENCY,  
DEPARTMENT OF THE ARMY  
DIRECTOR, TEST AND EVALUATION AND TECHNOLOGY  
REQUIREMENTS, DEPARTMENT OF THE NAVY  
DIRECTOR, TEST AND EVALUATION, DEPARTMENT OF THE AIR  
FORCE

SUBJECT: Call for FY 2000-2001 Distributed Centers Proposals

High performance computing (HPC) is an important tool for our scientists and engineers as they seek to provide technological advantage to the warfighter. The knowledge gained and the resulting high fidelity models and simulation enabled by HPC have been growing rapidly. Identified requirements to support our scientists and engineers exceed our capabilities. To help address this requirement, the High Performance Computing Modernization Program (HPCMP) operates four major shared resource centers (MSRCs) and high-speed networking services to connect the centers to each other and to the users. To supplement the MSRCs, the HPCMP has established distributed centers (DCs) across the Department of Defense (DoD).

The distributed centers contain a variety of scalable scientific computing engines to serve scientists and engineers who are engaged in DoD science and technology and test and evaluation programs. These centers are tailored to address a variety of problems including real-time data acquisition processing, signal image processing, embedded system applications and classified HPC applications. HPC systems are deployed to DCs where there is a significant advantage to having a local HPC system and where there is a potential for advancing DoD applications using investments in HPC capabilities and resources.

The HPCMP expects to upgrade HPC resources at existing distributed centers or establish new centers based upon the availability of FY 2000-2001 funding. Currently, funding available for the DCs is **approximately \$14M** in FY 2000 and \$0 in FY 2001. If funding becomes available in FY 2001, the HPCMP will issue a new call at that time. Based on projected funding we anticipate the selection of four to five FY 2000-2001 centers. Funding requests for each center should not exceed \$4M. (Please note that resources provided as part of the DC selection process remain under the reallocation and redistribution authority of the HPCMP.)

The attached package, containing the call for proposals for these distributed centers, details the submission, evaluation and selection process. As part of this process, we request your assistance to ensure that the appropriate laboratories and centers are aware of this opportunity. The [FY 2000-2001 Request for Proposals, Evaluation Criteria, and Process \(Attachment 1\)](#) specifies the criteria and guidelines used in the evaluation. It also provides milestones and outlines the selection process. Attachment 1 provides an explanation of the full process.

The Services/Agencies should aggregate the science and technology (S&T) and test and evaluation (T&E) nominations and prioritize them as outlined in Attachment 1. An important part of the selection process is Service/Agency mission priorities. The Service/Agency Executives' prioritization of their site nominations is the most important indicator of mission priority. Addressees should ensure that they allow sufficient time to review and prioritize their organization's proposals before they are due to the High Performance Computing Modernization Office (HPCMO). The HPCMO will take no action on proposals received without Service/Agency Executives' prioritization.

Please submit your prioritized distributed centers proposals and management commitment memoranda from the parent or hosting organizations' commanders (Table 1, criterion 8) in one original, 10 **unbound** copies, and one 3.5" PC-based diskette in Microsoft Word 95 (or higher) format. Send the complete packets to arrive no later than September 15, 1999 to the following address:

DoD High Performance Computing Modernization Office  
ATTN: Shared Resource Centers Project Manager  
1010 North Glebe Road, Suite 510  
Arlington, VA 22201-8205

Our point of contact for this activity is the Shared Resource Centers Project Manager, Mr. John Baird, at [baird@hpcmo.hpc.mil](mailto:baird@hpcmo.hpc.mil) or 703-812-8205.

/Signed/

Delores M. Etter  
Deputy Under Secretary of Defense  
(Science and Technology)

/Signed/

Charles J. Holland  
Director  
High Performance Computing  
Modernization Program

Attachments:

1. [FY 2000-2001 Request for Proposals, Evaluation Criteria, and Process](#)
2. [Document Formats](#)

cc:

High Performance Computing Advisory Panel Members

**Attachment 1**  
**-**  
**FY 2000-2001**  
**Request for Proposals, Evaluation Criteria, and Process**

## FY 2000-2001 Request for Proposals, Evaluation Criteria, and Process

This document outlines the High Performance Computing Modernization Program (HPCMP) distributed centers (DCs) proposal evaluation criteria and process for sites to be implemented in FY 2000-2001. Process sections are interspersed throughout the document to illustrate how the criteria are used in the overall process.

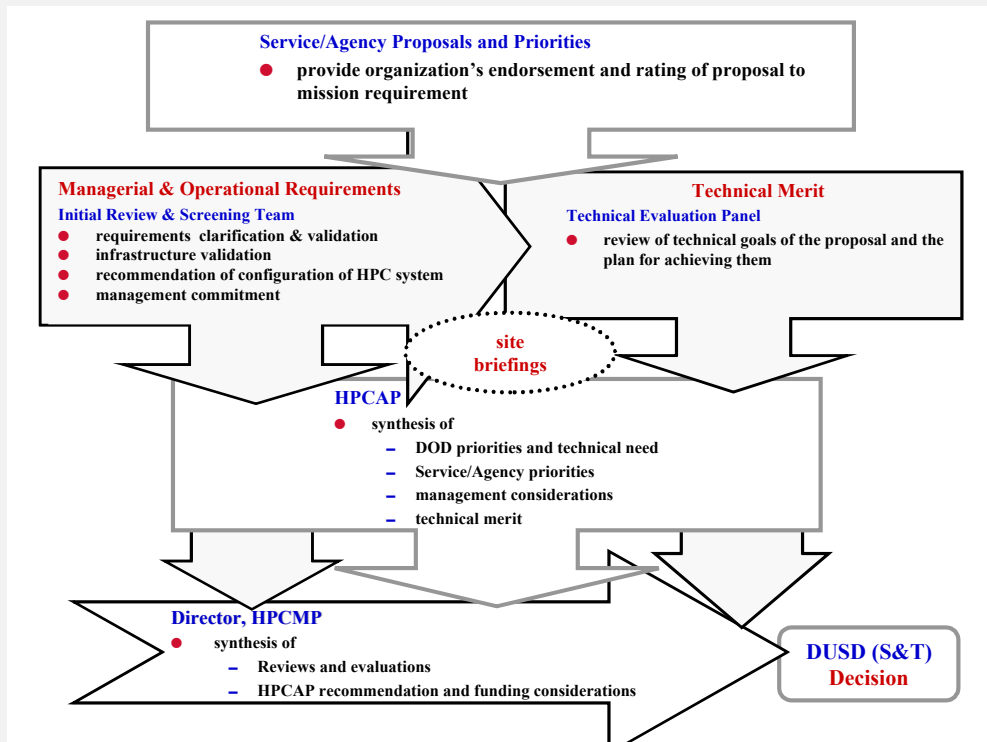
### PROCESS

#### Request for Proposals

The High Performance Computing Modernization Office (HPCMO) solicits proposals from Services/Agencies whose sites have requirements for local high performance computing (HPC) resources. The request for proposals includes a copy of the goals for the DCs as well as the technical selection criteria and the operational guidelines. It is distributed as follows:

- The HPCMP Director sends a formal memorandum announcing the call for proposals to the Service/Agency Executives. The High Performance Computing Advisory Panel (HPCAP) principals receive a courtesy copy of this memo.
- Informal announcements are sent to all of the HPC mailing lists and placed on the HPCMO World Wide Web page at <http://www.hpcmo.hpc.mil>.

The figure below illustrates the selection and decision process.



## FY 2000-2001 Request for Proposals, Evaluation Criteria, and Process

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**1. Purpose.** The High Performance Computing Modernization Office (HPCMO) is soliciting proposals for upgrades to existing distributed centers (DCs) or the establishment of new centers. Proposals are solicited for implementation in FY 2000-2001. Only proposals which include high performance computing (HPC) will be considered; proposals strictly for storage or visualization will not be considered.

Distributed centers were instituted to help support the overall program vision of applying HPC computation and communications to maintain technological superiority of warfighting systems. The goals for the distributed centers are to:

- support DoD mission requirements at selected sites where there is potential for advancing DoD applications through use of HPC;
- complement, balance, and supplement the major shared resource centers (MSRCs) by enabling local expertise to be developed and leveraged by the larger DoD community;
- execute small and medium-sized HPC applications, leveraging the larger major shared resource centers that execute the large applications;
- promote the development of new software tools and application area specific software;
- foster reuse of software tools and application software components as well as appropriate use of communication standards, interface standards, and graphics visualization standards across DoD;
- leverage HPC expertise and assets located in industry, academia and other federal laboratories in addition to DoD facilities; and
- apply commercial HPC hardware and software as rapidly as it becomes available.

**2. Proposal Evaluation.** Proposals will be evaluated based on three factors:

- C validated requirements for DoD mission support priorities,
- C technical selection criteria, and
- C the proposing center's willingness and ability to meet all of the HPCMO managerial and operational requirements.

## PROCESS

### Service/Agency Executive Nomination

#### Service/Agency Proposals and Priorities

- provide organization's endorsement and rating of proposal to mission requirement

Proposals are to be submitted to the High Performance Computing Modernization Office (HPCMO) by the Services/Agencies Executives.

Prior to proposal evaluation by the HPCMO, the Service/Agency Executives will prioritize the proposals from their subordinate sites in accordance with the call's guidelines and Service/Agency mission priorities. Service/Agency Executives shall ensure that the proposals and supporting documents are complete and accurate. Proposals not prioritized should not be forwarded to the HPCMO. The HPCMO will evaluate only proposals prioritized and transmitted via memorandum by one authorized Executive per Service or Agency. Proposals submitted not meeting this criterion will be disqualified from further consideration. The HPCMO will take no action on proposals received without Service/Agency Executives' prioritization.

Service/Agency Executives rate these proposals in descending order of priority. The higher the rating, the higher the priority the Executive assigns to the proposal. The sum of the ratings of all proposals submitted by each Executive must equal 100 points. The rating of science and technology (S&T) and test and evaluation (T&E) proposals will be aggregated so that there is one prioritized listing of all proposals nominated by each Executive.

The consolidated packets from the Services/Agencies must be submitted in one original, 10 unbound copies, and one 3.5" PC-based diskette in Microsoft Word 95 (or higher) format. Proposals must be submitted to the HPCMO by the Service/Agency Executives.

Once received by the HPCMO, the proposals will be evaluated based on the criteria outlined in this document.

### ***2.1 Evaluation Factor 1: Service/Agency Priorities.***

Prior to proposal evaluation by the HPCMO, the Service/Agency Executives will prioritize the proposals from their respective organizations. Priorities will be assigned based upon Service/Agency requirements.

## **PROCESS**

### **HPCMO Initial Review and Screening**

The HPCMO staff will conduct an initial review and screening to ensure that all proposals are viable prior to detailed evaluation (i.e., that they meet guidelines and criteria specified by the program and outlined in the request for proposals). This will include a comparison of the proposed requirements to the validated requirements listed in the program's requirements database to ensure consistency. The ODUSD (S&T) may conduct site visits to verify management considerations, technical considerations, or mission relevancy for selecting the proposed site.

#### **Managerial & Operational Requirements**

##### **Initial Review & Screening Team**

- requirements clarification & validation
- infrastructure validation
- recommendation of configuration of HPC system
- management commitment

Site representatives may be required to brief the HPCMO Initial Review and Screening Team.

Site representatives will be informed in writing of rejected proposals as soon as practicable and no further action will be taken by the HPCMO in the processing of such proposals.

## **2.2 Evaluation Factor 2: HPCMO Managerial and Operational Requirements.**

Once the HPCMO receives the Executive's memorandum and nominated proposals, the staff will conduct an initial review and screening of the proposals to ensure that they are viable prior to detailed evaluation. Each proposal will be evaluated against the managerial and operational requirements listed in Table 1. In order to be considered, proposals must meet all of the requirements. Site representatives will be informed of rejected proposals as soon as practicable and no further action will be taken by the HPCMO in the processing of such proposals.

**Table 1. Distributed Centers Managerial and Operational Requirements**

1	Distributed centers must demonstrate a genuine need for HPC capability.
2	Distributed centers must be willing to support non-local requirements, subject to DoD prioritized allocations.
3	Distributed centers must agree to pay full operations costs including all hardware and software maintenance costs.
4	Distributed centers must have a viable local acquisition strategy or acquisition plan in place prior to becoming a DC.
5	Distributed centers must acquire commercial-off-the-shelf systems.
6	The size of the distributed center's request will be modest ( $\leq$ \$4M each).
7	Sites must justify why they qualify for corporate DoD support. Individual project objectives alone are not sufficient justification.
8	There must be a host or parent organization management commitment to meeting the obligations of a DC. A memorandum of support from the commander of the site's host or parent organization must be submitted with each proposal. The memorandum must state explicitly that the parent site or organization commits to providing operations and sustainment funding and other necessary support for the center and that the site's proposal is indorsed and supported.

## PROCESS

### Technical Evaluation Panel

A detailed review and evaluation of the proposals according to the technical selection criteria will be performed.

A Technical Evaluation Panel (TEP) will be established by the HPCMO to evaluate the technical merit of the proposals. The evaluation panel will consist of members of the HPCMO staff and representatives from the HPC community. The HPCMO will obtain DUSD (S&T) concurrence for the Technical Evaluation Panel composition.

TEP members will provide written comments on each proposal evaluated as a formal record of the evaluation. The comments will address each technical criterion outlined in the call.

The Distributed Centers Action Officer will prepare a summary report and briefing for the High Performance Computing Advisory Panel (HPCAP) of the TEP's evaluation results.

The DUSD (S&T) or her designee may conduct site visits to verify management considerations, technical considerations, or mission relevancy during the evaluation process for the proposed site.

Site representatives may be required to brief the Technical Evaluation Panel and or the HPCAP at the HPCMO.

**Technical Merit**  
**Technical Evaluation Panel**  
● review of technical goals of the proposal and the plan for achieving them



### ***2.3 Evaluation Factor 3: Technical Selection Criteria.***

The third factor, the technical criteria, will ensure that any center recommended has demonstrated the technical capability essential to execute the distributed centers' objectives. These criteria are listed in Table 2. The maximum number of evaluation points is listed for each criterion. In several cases, there is a minimum number of points required to be further considered in the selection process. If the minimum number of required points is not met, the proposal will be eliminated from further consideration.

The first three criteria are the most important as apparent in the number of evaluation points assigned. It is not expected that all proposals will have high ratings in all of the first three criteria. The first criterion emphasizes development of new technology in support of DoD missions. The second emphasizes application of advanced technology that may have been developed elsewhere in support of the DoD mission. The third criterion is to identify HPC requirements that can not be reasonably met at existing MSRCs and DCs.



## FY 2000-2001 Request for Proposals, Evaluation Criteria, and Process

**Table 2. Distributed Centers Technical Selection Criteria**

	<b>Criterion Example/Description</b>	<b>Maximum Points</b>	<b>Minimum Required</b>
1	Innovative application of HPC in support of the DoD mission.	20	0
	Use of HPC systems where other methods (such as live fire or open air testing) were previously used.		
2	Application of existing HPC technology which will substantially improve existing mission areas.	20	0
	Employing a process upgrade from desktop to Gflop.		
3	Added value to DoD of having a local system relative to using remote systems (e.g., MSRCs or existing DCs).	20	5
	HPC requirements that <ul style="list-style-type: none"> <li>cannot be addressed using remote assets (such as embedded systems, hardware and weapons systems in-the-loop, real-time integrated test and evaluation) or</li> <li>support pioneer and research work in leading-edge technology, testbeds and prototypes.</li> </ul>		
4	Commitment to participate in the HPC software reuse activity and to adopt and use standards of the DoD HPC community.	10	5
	Evidence of awareness and commitment to use DoD and commercial standards and practices where appropriate.		
5	Demonstrated history of technology transfer or comprehensive Technology Transfer Plan.	10	0
	Documented successes (such as workshops, published papers, symposia, etc.) in transferring technology to other activities or a systematic plan to accomplish technology transfer. If the latter, the plan must be provided with the proposal.		
6	Ability and willingness to evaluate advanced computing and communications technologies or to develop, distribute, and maintain new software useful to other DoD users with similar applications.	10	0
	Pioneer work with industry, other government agencies, and academia (such as research in leading-edge chip and network technology) transitioned to MSRCs and other DCs.		
7	Local expertise in the use of HPC resources in important DoD applications.	10	5
	Local site must have mission core competency as well as HPC system integration expertise.		
<b>Total</b>		100	

## **PROCESS**

### **High Performance Computing Advisory Panel**

The HPCAP will categorize all proposals into three rating groups: high, medium and low. The rating will be based on DoD mission priorities, mission support priorities indicated by the Service/Agency Executives, HPCMO managerial and operational requirements, and the technical evaluation results. Special attention will be placed on ensuring that distributed centers address areas of critical technology need. Past performance of sites previously selected as distributed centers will also be briefed to the HPCAP by the HPCMO. Past performance will be a strong consideration for HPCAP evaluation.

The DUSD (S&T) or her designee may conduct visits to any or all sites to verify management considerations, technical considerations, or mission relevancy for selecting the proposed site.

Site representatives may be required to brief the HPCAP.

#### **HPCAP**

● synthesis of

- DOD priorities and technical need
- Service/Agency priorities
- management considerations
- technical merit

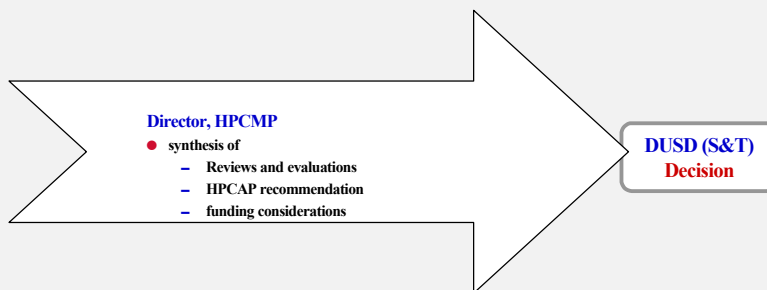
#### ***2.4 High Performance Computing Advisory Panel***

The High Performance Computing Advisory Panel will categorize proposals into three rating groups; high, medium and low. The categorization will be based on DoD mission and mission support priorities, the results of the management review, and the technical evaluation. Special attention will be placed on ensuring that distributed centers address areas of critical technology need. Those sites previously funded as HPCMP distributed centers will also be judged on past performance. The HPCMO will brief the panel on any issues with the site and on the site's adherence to terms of reference requirements, participation in HPCMP-sponsored activities, responsiveness to data calls, the site's distributed center web page availability, support of Challenge Projects, results of the program's post deployment evaluation and assessment process (if applicable) and the like.

**PROCESS**

**Director, HPCMP Analysis and Recommendation  
DUSD (S&T) Decision**

The Director, HPCMP shall review the HPCAP ranking, along with all previous reviews and evaluations against approved funding available and provide the Deputy Under Secretary of Defense (Science and Technology), DUSD (S&T), with a summary of evaluations and recommended selections and funding levels. The DUSD (S&T) will determine the number of sites selected and the level of funding to be provided.



The DUSD (S&T) may conduct site visits to verify management considerations, technical considerations, or mission relevancy for selecting the proposed site.

### 3. Proposal Submission

Proposals must include, at a minimum:

**a. Memorandum of commitment from commander (or equivalent) of host or parent organization.** The memorandum must state explicitly that the parent site or organization commits to providing operations and sustainment funding and other necessary support for the center and that the site's proposal is indorsed and supported.

**b. Summary Sheet.** A two page summary sheet should be affixed to the front of the proposal. (Format is provided at Attachment 2.)

**c. Proposal**

Proposals must fully address the criteria listed in Tables 1 and 2. Each criterion should be addressed separately and in the order shown at subparagraphs 5 and 6 below.

Proposals should be no more than 20 pages, single spaced with one inch margins. The font should be Times New Roman 12. The proposal format is outlined below.

- (1) Executive summary - no more than one page
- (2) Description of current operating environment
  - Short description of the site and existing HPC resources/capabilities
  - Network bandwidth
  - Number of local users
  - How HPC is presently funded
- (3) Description of the critical technology need to be addressed
  - Why is the technology important to DoD? How will the warfighter benefit?
  - Description of how HPC will address this need.
- (4) Description of commercial-off-the-shelf systems to be acquired
  - Hardware requirements
  - Software requirements
  - Networking requirements
  - Other requirements
- (5) Discussion of how the site meets the following managerial criteria
  - a. Genuine need for HPC capability
  - b. Willingness to support non-local requirements, subject to DoD prioritized allocations
    - Projected user base
    - Recommended allocation of resources:
      - Internal allocation
      - Allocation to other DoD HPCMP users
  - c. Agreement to pay full operations costs including all hardware and software maintenance costs
    - System cost breakdown
    - Funding schedule broken out by source of funding (HPCMP and parent organization)
    - Justification for corporate DoD support
  - d. Description of local acquisition strategy or acquisition plan

- (6) Technical criteria - Discussion of the site's conformance to each criterion
  - a. Innovative application of HPC in support of the DoD mission
  - b. Application of existing HPC technology which will substantially improve existing mission areas
  - c. Added value to DoD of having a local system relative to using remote systems
  - d. Commitment to participate in the HPC software reuse activity and to adopt and use standards of the DoD HPC community
  - e. Demonstrated history of technology transfer or comprehensive Technology Transfer Plan
  - f. Ability and willingness to evaluate advanced computing and communications technologies or to develop, distribute, and maintain new software useful to other DoD users with similar applications
  - g. Local expertise in the use of HPC resources in important Defense applications

**d. Supporting Documents**

In addition to the above, proposing sites must submit a requirements analysis (RA), an analysis of alternatives (AA), a business plan, and proposed performance metrics as part of the proposal. (Formats are provided at Attachment 2.)

- (1) Requirements Analysis
- (2) Analysis of Alternatives
- (3) Business Plan
- (4) Proposed Performance Metrics

**4. Post Selection Requirements**

Sites selected as FY 2000-2001 distributed centers will be required to sign a memorandum of agreement (MOA) with the HPCMO. The sites will also be required to submit a security plan, test and evaluation master plan (TEMP) addendum, procurement and initial implementation plan (PIIP), and a life cycle cost estimate (LCCE) to the HPCMO. These documents' suspense dates are shown at paragraph 5, below.

Distributed centers selected for funding will be expected to obligate funds by the end of 4QFY 2000.

In FY 2002, distributed centers selected through this proposal process will undergo a post-deployment evaluation and assessment process (P-DEAP). The P-DEAP will appraise each site's progress and performance in meeting the goals of its original proposal and the responsibilities of a DoD HPCMP distributed center. The P-DEAP is part of the required post-implementation review process to evaluate HPCMP information technology investments under the Government Performance and Results Act and Clinger-Cohen Act.

## **FY 2000-2001 Request for Proposals, Evaluation Criteria, and Process**

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### **5. FY 2000-2001 Schedule**

<b>Event/Requirement</b>	<b>Due Date</b>
<b>For Proposals</b>	
Proposal Call	<b>July 1999</b>
Proposal Submission	<b>15 September 1999</b>
RA/AA/Business Plan/Proposed Metrics Submission	<b>15 September 1999</b>
Proposal Evaluation Complete	<b>31 December 1999</b>
<b>For Selected FY 2000-2001 Distributed Centers</b>	
Signed Memorandum of Agreement	<b>21 January 2000</b>
Funding Released	<b>24 January 2000</b>
Procurement and Initial Implementation Plan (PIIP)	<b>28 January 2000</b>
Life Cycle Cost Estimate (LCCE)	<b>27 March 2000</b>
TEMP Addendum	<b>31 March 2000</b>
Security Plan Addendum	<b>3QFY2000</b>
Obligation of Funds	<b>4QFY2000</b>

## **Attachment 2 - Document Formats**

**Proposal Summary Sheet**

**Requirements Analysis**

**Analysis of Alternatives**

**Business Plan**

**Proposed Performance Metrics**

**Proposal Summary Sheet**  
Proposal Summary  
for

\_\_\_\_\_  
(Site Name)

Point of Contact: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Voice Phone Number: \_\_\_\_\_ FAX Phone Number: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

**Minimum System Requirements (this proposal ONLY, NOT total requirements):**

Peak computational rate: \_\_\_\_\_ Gflops

Primary memory: \_\_\_\_\_ GBytes

Secondary storage: \_\_\_\_\_ GBytes

DoD Mission Supported: \_\_\_\_\_

Principal System Applications: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Benefits (Impact on warfighter): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Proposed percentage of center resources reserved for local use: \_\_\_\_\_%

Proposed percentage of center resources reserved for non-local DoD-wide use: \_\_\_\_\_%

Wide-area networking requirements: \_\_\_\_\_  
\_\_\_\_\_



Acquisition strategy (e.g., existing HPC contract, new request for proposals [RFP], integration services contract): \_\_\_\_\_

**Cost Breakdown:**

Category	Item Description	Proposed Cost to HPCMP	Site Costs
Computational system breakdown	include # of processors and type, etc.		
Other hardware breakdown	include type (e.g., mass storage, visualization) and function, etc.		
Hardware Total			
Software breakdown	include category and version, etc.		
Software Total			
Operations breakdown	describe		
Operations Total			
Maintenance breakdown	for what and duration		
Maintenance Total			
Total			

**Source of pricing (Provide copy of all quotes and special considerations and cite the source and date of quote here):** \_\_\_\_\_

Impact to DoD if not funded: \_\_\_\_\_

**Other Contact Information** (Here provide the next three levels of supervision or command as they pertain to the point of contact (e.g., Division Chief, Lab Director, Installation Commander):

Point of Contact/Position: \_\_\_\_\_

Voice Phone Number: \_\_\_\_\_ FAX Phone Number: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

Point of Contact/Position: \_\_\_\_\_

Voice Phone Number: \_\_\_\_\_ FAX Phone Number: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

Point of Contact/Position: \_\_\_\_\_

Voice Phone Number: \_\_\_\_\_ FAX Phone Number: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

**Requirements Analysis Format**  
Requirements Analysis  
for  
Site Name

**1. Description of the Requirement.** This section includes:

- C Mission needs expressed in the form of opportunities for increased economy and efficiency, new or changed program requirements, or deficiencies in existing capabilities.
- C Description of requirements in terms of functions to be performed and performance to be achieved, unless a more restrictive statement of requirements is necessary to satisfy the needs.
- C Description of a typical or average system configuration that is anticipated will meet the requirement.
- C Documentation of the quantitative and qualitative requirements that must be met and why those requirements are necessary to meet the mission needs. These requirements should be consistent with the set of requirements documented for the organization in the 1999 update of its HPC requirements.
- C Documentation of additional capabilities to be used in support of separate missions by other DoD activities.

**2. Compatibility-Limited Requirements.** These requirements are limited to satisfying technical or operational needs and are justified on the basis of at least one of the following:

- a. A technical or operational requirement for compatibility when adding resources to, or replacing a portion of, an installed base or resources, and a determination that replacing additional portions of the installed base to avoid compatibility-limited requirements is not disadvantageous.
- b. A determination that the risk and impact of a conversion failure on critical mission needs would be so great that acquiring non-compatible resources is not a feasible alternative.

**3. Location, Space, and Environmental Requirements.** This section includes a description of where the requirements exist and any special considerations which must be met in the way of space or environmental conditions resulting from the requirement's location or the equipment expected to satisfy the requirement.

**4. Security Requirements.** These requirements are necessary to protect classified and sensitive information by listing the potential threats/hazards and describing the measures needed to provide protection.

**5. Critical Operational Issues.** Summarize the performance requirements described in sections 1 through 4, above, in measurable terms and specify the minimum acceptable values required. These are your critical operational issues (COIs). They must be directly traceable to the critical technology needs described at paragraph 3c of your proposal.

**6. Workload and Related Requirements.** These requirements include:

- C projected processing, storage, data entry, communications, and support services workload requirements over the system life;
- C expandability requirements;
- C a performance evaluation of currently installed federal information processing (FIP) resources; and
- C contingency requirements for FIP resources whose loss or failure would prevent mission accomplishment.

**7. System Life.** The system life is usually stated in months. For example, a 5-year system life would be stated as 60 months. The following factors should be considered when establishing the system life:

- C the period of time the resources will satisfy the needs of the initial user;
- C the rate at which technology is expected to advance;
- C the probability of continued availability of support items such as maintenance, spare parts, and software support;
- C the period of time required to accomplish subsequent acquisitions to meet the requirement, i.e., acquisition lead time; and
- C other known requirements that can be met by reassignment within the agency or reuse within the government once the resources no longer meet the needs of the initial user.

**Analysis of Alternatives Format**  
Analysis of Alternatives  
for  
Site Name

**1. Requirement**

- a. Need. Describe the deficiency or opportunity. Discuss the computational requirements involved, the requirements as laid out in the requirements analysis, the most applicable performance measures, and the opportunities for business process reengineering and technology transfer.
- b. Constraints. Describe underlying assumptions regarding personnel, funding, and technical constraints.
- c. Operational concept. Summarize the organizational and operational plan for the proposed system.

**2. Alternatives**

- a. Performance Objectives. Describe quantitatively the minimum acceptable operational requirements and objectives for performance of the proposed concept/system. Show the impact of changes at the margin in performance and mission satisfaction.
- b. Description of Alternatives. Describe the alternatives investigated in the analysis. Clearly define the alternatives to the status quo for which costs and benefits are being estimated.

**3. Analysis of Alternatives**

- a. Estimate on a year-by-year basis the costs and benefits for each alternative. Explain the basis for the cost estimates; assess the level of uncertainty in the estimates.
- b. Specify the types of benefits (cost savings, mission enhancement, other) expected from each alternative and quantify the extent of benefit; clearly explain how the alternatives will lead to the realization of those benefits.

**4. Summary of Results**

Summarize the major findings of the analysis. Highlight factors affecting the acceptability and affordability of the alternatives, both individually and in relation to one another.

**Business Plan Format**  
Business Plan  
for  
Site Name

- 1. Points of Contact.**
- 2. Mission, Goals, Objectives.**
- 3. Brief Description of Center and How it Supports the DoD Mission.**
- 4. HPC Computational Technology Areas Supported by Center (CFD, CSM, FMS, ...).**
- 5. Acquisition Strategy and Anticipated Milestones.**

Event	Date
Statement of Work	
Request for Proposals (RFP) Release	
RFP Closing	
Contract Award	

**6. Center's Budget and Plans for Funding.**

	FY2000	FY2001	FY2002
Hardware Maintenance			
Software Maintenance			
Contractor Personnel Cost			
Facilities			
Supplies			
Travel			
Communications			
Training			

**7. Brief Description of Funding Sources for Items in #6.**

**8. Obligation and Expenditure Schedule for HPCMP Funding.** (The date of receipt of funding is unknown at this time. Use "X-date" as the start point and show the schedule as the number of days, weeks or months from the date funds are received.)

**Proposed Performance Metrics Format**  
**Proposed Performance Metrics**  
**for**  
**Site Name**

(Please refer to *Performance Based Management: Eight Steps to Develop and Use Information Technology Performance Measures Effectively*, GSA, undated; available at

<http://www.itpolicy.gsa.gov/mkm/pathways/8-steps.htm>).

Additional guidance is available at <http://www.itpolicy.gsa.gov/mkm/pathways/pathways.htm>.

**1. Site's Mission and Vision**

**2. Site-Level Goals** (as described in the site's proposal)

**3. Performance Details**

<b>Measure 1 - DoD mission improvement.</b> (Technical Selection Criteria 1 & 2, Table 2)		
	Title:	
	Description:	
	Metric:	
	The measure is:	
	The target is:	
	Data Source:	
	Report Frequency:	

<b>Measure 2 - Added value to DoD of local system.</b> (Technical Selection Criterion 3, Table 2)		
	Title:	
	Description:	
	Metric:	
	The measure is:	
	The target is:	
	Data Source:	
	Report Frequency:	

<b>Measure 3 - Technology transfer.</b> (Technical Selection Criterion 5, Table 2)		
	Title:	
	Description:	
	Metric:	
	The measure is:	
	The target is:	
	Data Source:	
	Report Frequency:	

<b>Measure 4 - HPC evaluation and advancement.</b> (Technical Selection Criteria 4-6, Table 2)		
	Title:	
	Description:	
	Metric:	
	The measure is:	
	The target is:	
	Data Source:	
	Report Frequency:	

<b>Measure 5 - Responsiveness to HPCMP requirements.</b> (Managerial and Operational Requirements Criterion 8, Table 1 <u>and</u> HPCMO/Site Terms of Reference)		
	Title:	
	Description:	
	Metric:	
	The measure is:	
	The target is:	
	Data Source:	
	Report Frequency:	